230 Series OCXO - Compact and High Performance

Description

The 230 Series provides high stability in a 1.423"L x 1.071"W x 0.765"H (36.1 x 27.2 x 19.4 mm) package. The 230 Series SC cut offers a thermal stability of 1.50E-08 over a 100°C temperature window and 10 MHz phase noise performance of -115dBc/Hz @ 10Hz offset. The 230 Series is perfect for base stations, GSM, and instrumentation applications.

Features

- STRATUM III, IIIe Performance
- Low Phase Noise

Applications

- STRATUM III, IIIe Telephony
- GPS Receivers
- Cellular/Paging Base Stations
- PCS
- GSM
- CDMA
- Encryption
- Instrumentation

Performance Range	
Parameters	**Available Range**
Frequency	32 KHz to 60 MHz
Thermal Stability	5.00E-09 to 5.00E-07
Operating Temperature	-40°C to +85°C
Output	HCMOS/ACMOS 0 to +17dBm Sine
Supply Voltage	+5 to +15V (DC)
Tuning Voltage	-10 to +10V (DC)

Design Note:

Base Models can be customized to your specifications using the performance range for this series.

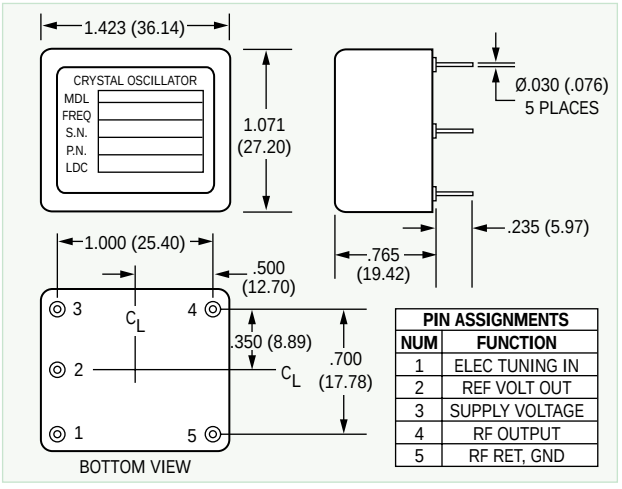
230 Series Base Model Performance Guide

Frequency MHz	Crystal Cut	Thermal Stability*	Aging Rate per Day	Aging Rate per Year	Output	Phase Noise @ offsets (dBc/Hz) 1Hz	10Hz	100Hz	1kHz	10kHz	100kHz
5.000	AT	2.00E-07	1.00E-09	1.00E-07	9dBm Sine	-90	-125	-140	-145	-155	-155
5.000	SC	1.00E-08	5.00E-10	7.00E-08	9dBm Sine	-95	-125	-145	-150	-160	-160
8.192	SC	2.50E-08	7.00E-10	1.00E-07	HCMOS	-85	-115	-140	-150	-160	-160
10.000	AT	2.00E-07	1.00E-09	2.00E-07	9dBm Sine	-75	-105	-135	-150	-155	-155
10.000	SC	2.50E-08	7.00E-10	1.00E-07	9dBm Sine	-85	-115	-140	-150	-160	-160
13.000	AT	2.00E-07	1.00E-09	3.00E-07	9dBm Sine	-70	-100	-120	-145	-155	-155
13.000	SC	1.50E-08	7.00E-10	1.00E-07	HCMOS	-80	-110	-135	-145	-155	-155
16.384	AT	2.00E-07	1.00E-09	3.00E-07	9dBm Sine	-65	-95	-120	-150	-155	-155
16.384	SC	2.50E-08	7.00E-10	1.00E-07	HCMOS	-80	-110	-135	-145	-155	-155
26.000	SC	2.50E-08	7.00E-10	1.00E-07	9dBm Sine	-75	-100	-130	-140	-145	-145
30.000	SC	2.50E-08	1.00E-09	1.00E-07	9dBm Sine	-75	-100	-130	-140	-145	-145

* Temperature Range is from -30°C to +70°C

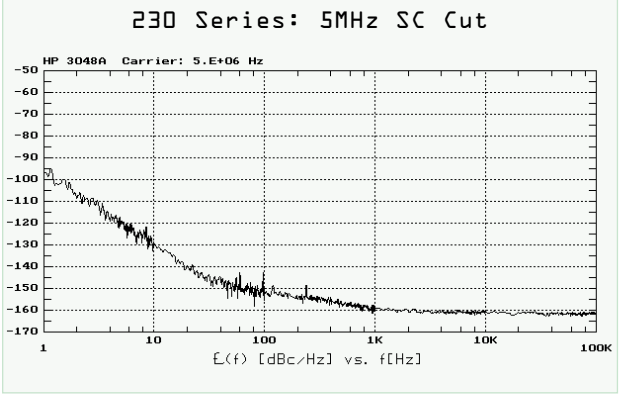
MTI MTI-MILLIREN TECHNOLOGIES, INC.
Two New Pasture Road • Newburyport MA 01950 • USA
Tel: 978.465.6064 • Fax: 978.465.6637 • www.mti-milliren.com

230 Interface Control Drawing

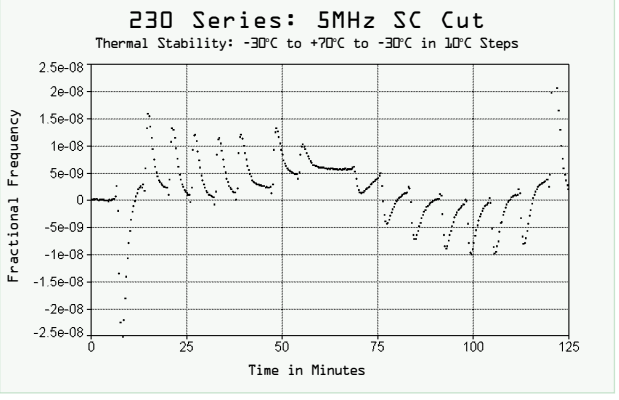


PIN ASSIGNMENTS	
NUM	FUNCTION
1	ELEC TUNING IN
2	REF VOLT OUT
3	SUPPLY VOLTAGE
4	RF OUTPUT
5	RF RET, GND

Phase Noise



Thermal Stability



Short Term Stability	dF/dV	dF/dL	Warm Up Time (Min)	Warm Up dF/F	Warm Up Power (W)	Continuous Power (W) @25°C	Tuning (Min)	MTI Model #
2.00E-11	1.00E-08	2.00E-08	10	2.00E-08	5.0	1.4	±2.00E-06	230-0506
1.00E-11	5.00E-10	5.00E-10	5	2.00E-08	5.0	1.4	±3.00E-07	230-0666
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.4	±2.00E-07	230-0663
1.00E-10	1.00E-08	2.00E-08	10	2.00E-08	5.0	1.4	±1.20E-06	230-0501
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.4	±7.00E-07	230-0503
1.00E-10	1.00E-08	2.00E-08	10	2.00E-08	5.0	1.4	±2.00E-06	230-0510
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.4	±7.00E-07	230-0664
1.00E-10	1.00E-08	5.00E-08	10	2.00E-08	5.0	1.4	±3.00E-06	230-0515
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.4	±7.00E-07	230-0665
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.8	±7.00E-07	230-0662
2.00E-11	1.00E-09	1.00E-09	5	2.00E-08	5.0	1.8	±7.00E-07	230-0661